

## REMARKS

### 1. The Amendments and the Support Therefor

No claims have been canceled, 12 new claims (9-20) have been added, and claims 2-8 have been amended to leave claims 1-20 in the application. No new matter has been added by the amendments or new claims, wherein:

- Section headings have been added to the specification to address the informalities noted in Section 1 of the Office Action (i.e., the lack of section headings);
- *Dependent claims 2-8* have been amended to review their preambles to address the informalities noted in Section 2 of the Office Action;
- *Dependent claims 5 and 8* have been amended to remedy any indefiniteness alleged in Section 3 of the Office Action;
- *New dependent claim 9* finds support, for example, at page 3 line 25-page 4 line 6 and in FIG. 3, wherein the cell is tensioned between fasteners 20, and is held in a bent state by the loop 1 as it extends transversely along the pad.
- *New independent claim 10* finds support, for example, at page 3 line 25-page 4 line 6 and in FIG. 3, wherein fastening hooks 20 hold the cells in tension within the loop straps 1 in the illustrated “bent” shape, and when the fastening hooks 20 are released, the cells assume the “straight” shape shown by the central portion of the cell restrained by loop 1.
- *New dependent claim 11* finds support, for example, at page 3 line 25-page 4 line 6 and in FIG. 3, wherein fastening hooks 20 at the end of the cell lengths tension the cells.
- *New dependent claim 12* finds support, for example, at page 3 line 25-page 4 line 6 and in FIG. 3, wherein the central portion restrained within loop 1 has a central axis offset from a linear axis extending between the cell ends.
- *New dependent claim 13* finds support, for example, at page 3 line 25-page 4 line 6 and in FIG. 3, wherein the central portion restrained to the pad base within loop 1 is offset from an axis extending between the fasteners 20.
- *New dependent claim 14* finds support, for example, at page 3 line 25-page 4 line 6 and in FIG. 3, wherein the loop 1 restrains the central portion to the pad base.
- *New dependent claim 15* finds support, for example, at page 3 line 25-page 4 line 6 and in

FIG. 3, wherein the central axis extending between the fasteners 20 is bent into a nonlinear shape.

- *New independent claim 16* finds support, for example, at page 3 line 25-page 4 line 6 and in FIG. 3, wherein the loops 1 extend about the cells and restrain the cells to the pad base, and the fasteners 20 at the cell ends are affixed to structure 12 off of the pressure pad, wherein the cells are bent along their lengths between the loops 1 and the fasteners 20.
- *New dependent claims 17 and 20* find support, for example, at page 3 line 25-page 4 line 6 and in FIG. 3, wherein the cells are tensioned along their lengths between the loops 1 and the fasteners 20.
- *New dependent claims 18 and 19* find support, for example, at page 3 line 25-page 4 line 6 and in FIG. 3, wherein the loops 1 have central axes which are offset from a linear axis extending between the fasteners 20.

Further comments regarding the new claims are set out at Section 4 below.

## **2. Sections 1-3 of the Office Action: Objections; Rejection of Claims 5 and 8 under 35 USC §112**

These objections are believed to be obviated by the amendments discussed above.

## **3. Section 4 of the Office Action: Rejection of Claims 1-8 under 35 USC §102 in view of U.S. Patent 6,349,439 to Cook**

U.S. Patent 6,349,439 to *Cook* illustrates a pressure pad (as in FIG. 1) having sets of alternately inflatable cells 1 and 2 wherein each cell is retained atop a base sheet 3 (seen in FIG. 3) by loops 4 (FIG. 1); see column 2 lines 53-55. Several loops 20 at one end of the pad are elastic, whereby these loops exert radial force on their cells to accelerate deflation (column 2 lines 56-67). FIG. 2 illustrates an alternative embodiment wherein cells are encased in sleeves 10 which are in turn held by elastic loops 20 to attain the same effect (column 3 lines 6-17).

FIGS. 4 and 5A-5C of *Cook* then illustrate an arrangement for retraining the base sheet 3 (and thus the cells 1 and 2 above) to a bed, wherein securing straps (21 in FIG. 4, 21a in FIGS. 5A/5B,

and 21c in FIG. 5C) extend from the edges of the base sheet 3 to a portion of the bed (shown unlabeled in FIGS. 5A-5C); see column 3 lines 41-57. The straps 21 include loops 21a (FIGS. 5A/5B) or folds 21c (FIG. 5C) which expand to avoid tension on the straps 21 (and thus on the base sheet 3). When a patient lies on the cells of FIG. 5A, the edges of the pad may bend upwardly as seen in FIG. 5B as the center of the pad is pushed downwardly. In this case, the loops/folds 21a and 21c can open/unfold (as in FIGS. 5B-5C) to accommodate the bending of the pad without tearing the straps 20 off of the bed (see column 3 lines 53-57).

Kindly reconsider and withdraw the rejections of claim 1 and its dependent claims 2-8. Claim 1 recites that the cells are held in place on a pad base by retaining means which hold the cells in tension across the pad. The rejection of claim 1 asserts that the *Cook* straps 4 and 20 – which hold the cells of *Cook* to its pad base – amount to the retaining means of claim 1, whereas the subsequent rejections appear to assert that the *Cook* straps 21 – which hold the *Cook* pad base to the bed – amount to the retaining means. However, regardless of whether the straps 4 and 20 are regarded as “retaining means,” and/or whether the straps 21 are regarded as retaining means, none of these meet the recitation of claim 1 that the retaining means hold the cells in tension across the pad. “Tension” has a generally well-accepted meaning, and as per MPEP 2111.01, it is useful to refer to common dictionary definitions to review this meaning:

Merriam-Webster's Online Dictionary (<http://www.m-w.com/cgi-bin/dictionary?book=Dictionary&va=tension>):

*1 a: the act or action of stretching or the condition or degree of being stretched to stiffness  
: tautness b: stress 1b*

*2 a: either of two balancing forces causing or tending to cause extension b: the stress  
resulting from the elongation of an elastic body*

The American Heritage Dictionary (<http://www.bartleby.com/61/85/T0108500.html>):

*1a. The act or process of stretching something tight. b. The condition of so being stretched;  
tautness.*

*2a. A force tending to stretch or elongate something. b. A measure of such a force: a tension  
on the cable of 50 pounds.*

Dictionary.com (<http://dictionary.reference.com/search?q=tension&r=66>):

*1. the act of stretching or straining.*

*2. the state of being stretched or strained.*

Microsoft Encarta (<http://encarta.msn.com/encnet/features/dictionary/DictionaryResults.aspx?refid=1861719079>);

*pulling force: a force that pulls or stretches something*

Claim 1 therefore requires retaining means which (1) retain the cells on the pad base, and (2) hold the cells in tension – i.e., pull/stretch them. The *Cook* straps 4 and 20, which hold the cells of *Cook* to its pad base 3, do not pull/stretch the cells; they merely loop around the cells to hold them to the pad base 3 (see column 2 lines 52-59 of *Cook*). The *Cook* straps 21 then restrain the pad base 3 to the bed, and thus they do not retain the cells on the pad base; further, these do not even tension the pad base 3 owing to the inclusion of the expansible sections 21a/21c, which expand to *avoid* tension (column 3 lines 52-57). Thus, the *Cook* structure does not anticipate claim 1. It is notable that *Cook* is a prior art pressure pad of the type discussed in Applicant's specification at page 1 line 18-page 2 line 3 and elsewhere, in that the inflation/deflation of the *Cook* cells tends to shift the patient across the pad's surface (particularly where the pad and patient are inclined, e.g., when the bed/platform upon which the pad is situated is inclined). See particularly page 4 lines 8-18 of Applicant's specification:

[O]ne of the main reasons for the prior art alternating pads inducing downward movement of the user as the cells alternately inflate and deflate, is that with the cell ends anchored on a common linear axis with the loop straps, the loop straps are allowed to pivot about their anchor points and the cells to rotate under a user supported thereupon. These actions act in a similar manner to a conveyor belt. The rising cell supports the user, moves or rotates down the bed, deflates, rises again in its original position and the process continues over and over again.

Since the *Cook* cells are “unrestrained” atop the pad base 3 within their loops 4/20 (and/or sleeves 10), they allow this “conveyor” action, such that a patient (particularly an inclined patient) will move along the pad as the cells inflate/deflate. There is no apparent reason why it would occur to an ordinary artisan to solve this problem by restraining the cells to the base pad 3 in such a manner that the cells are tensioned as recited in Applicant’s claim 1, as well as (or instead of) the cells simply being restrained about their circumferences.

Regarding claim 2, the *Cook* straps 4 and 20, which hold the cells of *Cook* to its pad base, are not disclosed as being releasable, nor would one of ordinary skill make them releasable because it is not conventional to do so; rather, the straps/loops 4 and 20 are left closed, with the cells being inserted therein. Releasable straps 4 and 20 would allow different cells to be affixed about their circumferences with different tightness, and any cells which are bound more loosely would contribute to the aforementioned conveyor effect. The *Cook* straps 21 are releasable, but these are not “retaining means” as claimed because they do not hold the cells on the pad base. Rather, they hold the *Cook* pad base 3 to the patient’s bed.

Regarding claims 3 and 6, the *Cook* straps 4 and 20 do not secure the opposite ends of each cell at a predetermined distance from the center linear axis of the cell. Rather, they secure intermediate portions of each cell adjacent the center linear axis of the cell. The *Cook* straps 21 also do not secure the opposite ends of each cell: they secure the pad base 3 to the bed, and additionally they are not tensioned owing to the expandable loops/folds 21a and 21c, and thus do not serve to secure either the pad base 3 or the cells to the bed at a predetermined distance from the center linear axis of the cell. Rather, the pad base 3 and cells are free to flex in an unsecured manner atop a platform/bed, as shown in FIGS. 5B and 5c.

Regarding claims 4 and 7, while the *Cook* straps 4 and 20 secure the central region of the cells along the center linear axes of the cells, the *Cook* straps do not provide the tensioning required by parent claim 1. As for the *Cook* straps 21, these do not secure the central region of the cells along the center linear axes of the cells; rather, they only hold the pad base 3 atop the bed, and do not serve to secure the cells owing to the expandable loops/folds 21a and 21c (which allow extension and contraction of the straps 21 between the pad base 3 and bed).

Regarding claims 5 and 8, while the *Cook* straps 4 and 20 are loops securing the central

region of the cells, the *Cook* straps do not provide the tensioning required by parent claim 1. As for the *Cook* straps 21, these include hook-and-loop fasteners (column 3 lines 47-48), but these do not releasably retain each end of the cell: they only hold the pad base 3 atop the bed, and do not serve to secure the cells owing to the expandable loops/folds 21a and 21c (which allow extension and contraction of the straps 21 between the pad base 3 and bed, thereby allowing the cell ends to flex upwardly as in FIGS. 5B-5C and downwardly as in FIG. 5A).

#### **4. New Claims 9-20**

New claim 9, which ultimately depends from claim 1, is submitted to be allowable for at least the same reasons as claim 1. Additionally, claim 9 is submitted to be independently allowable because neither *Cook* nor any other art of record is believed to disclose or suggest the retaining means holding the cells in a bent state, as recited. As previously discussed, neither *Cook*'s loops 4 and 20, nor its strap 21 (with its expandable loops 21a/21c), hold the cells in a bent state. More specifically, the expandable loops 21a/21c are intended to *avoid* restraining the base pad (and its cells) in either a bent or unbent shape; rather, they allow the cells to flex in whatever direction that minimizes stress.

New independent claim 10 is submitted to be allowable because *Cook* does not tension its cells along their lengths both when inflated and deflated – in either case, the *Cook* cells are freely fit within loops 4 and 20 – and while the cells move between the shapes of FIGS. 5A and 5B-5C, they do so in dependence on whether a patient is resting on the pad, regardless of any tension in the cells.

New claim 11, which depends from claim 10, is submitted to be allowable for at least the same reasons as claim 10. Additionally, claim 11 is submitted to be independently allowable because there are no fasteners in *Cook* tensioning the cells at the end of their lengths, and strap 21 – which extends from the base pad 3 rather than the cells – is intended to *avoid* tensioning the base pad 3 (and the cells thereon), by including the expandable loops 21a/21c.

New claims 12-14, which ultimately depend from claim 10, are submitted to be allowable for at least the same reasons as claim 10.

New claim 15, which ultimately depends from claim 10, is submitted to be allowable for at

least the same reasons as claim 10. Additionally, claim 15 is submitted to be independently allowable because the cells in *Cook* are not tensioned, and even if they were tensioned (e.g., by the straps 21 via the base pad 3), they would be pulled into linear shapes rather than nonlinear ones.

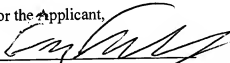
New independent claim 16 is submitted to be allowable because *Cook's* loops 4 and 20 and fasteners (straps 21) do not urge the cells into nonlinear shapes between the loops and the fasteners. Rather, the cells assume the nonlinear shapes of FIGS. 5B-5C in dependence on whether a patient is resting on the pad, and the fasteners 21 do not themselves urge the cells into any shapes because their expandable loops 21a/21c are intended to allow the cells to freely bend or unbend when patients are placed on or removed from the pad.

New claims 17-20, which ultimately depend from claim 16, are submitted to be allowable for at least the same reasons as claim 16.

## **5. In Closing**

If any questions regarding the application arise, please contact the undersigned attorney. Telephone calls related to this application are welcomed and encouraged. The Commissioner is authorized to charge any fees or credit any overpayments relating to this application to deposit account number 18-2055.

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